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Regulatory Directive DIR2010-05

Revisions to the Residue Chemistry Crop Field Trial Requirements

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Table of Contents

1.0 Purpose 1
2.0 Background 1
3.0 Crop Selection 1
4.0 Integration of Agricultural Data into Crop Field Trial Regions 2
5.0 Determination of the Number of Field Trials by Crop 2
6.0 Implementation Strategies 3
Appendix I 5
Appendix II 7
Table 1.1 Minimum Number of Crop Field Trials and Treated Samples on Individual Crops, Crop Areas and Dietary Share 7
Table 1.2 Number of Field Trials by Crop and Region 9
Table 1.3 Area of Crops by Region (Hectares) – 2006 Census of Agriculture 12
Table 1.4 Area of Crops by Region (Acres) – 2006 Census of Agriculture 14

1.0 Purpose

The purpose of this document is to communicate to industry and other interested parties revisions to the crop field trial requirements used by Health Canada's Pest Management Regulatory Agency (PMRA) to support the domestic registration of a pesticide on a crop. The revised crop field trial requirements will replace those currently specified in Section 9 of Regulatory Directive DIR98-02, *Residue Chemistry Guidelines*. The PMRA will adopt the revised trial requirements for studies conducted after January 2012.

2.0 Background

Supervised crop field trials are conducted to determine the amount and type of agricultural chemical left in/on the plant material as a result of the chemical's use. Data from these field trials are used to estimate the dietary exposure to agricultural chemicals and determine maximum residue limits (MRLs) for enforcement purposes.

The total number of crop field trials required for a given crop is determined by the total production area and the dietary share. The specific locations of the field trials are distributed according to the share of total crop area reported in each region (see Appendix I). The current supervised crop field trial requirements listed in DIR98-02 were based on production data from the 1991 Census of Agriculture and the 1995 Fruit and Vegetable Survey.

Updated crop production data were determined as part of the 2006 Census of Agriculture (CEAG). The PMRA, in collaboration with Statistics Canada, has revised the field trial requirements of the crops listed in DIR98-02. These revisions also expand the existing list of crops by adding new commodities.

3.0 Crop Selection

The crops listed in DIR98-02 represented crops with production areas greater than 250 ha according to the 1991 Census of Agriculture. Additional crops were included from the 1995 Fruit and Vegetable Survey, which represented production areas greater than 205 ha.

In addition, crops grown in greenhouses and growing houses (i.e. cucumbers, lettuce, mushrooms, peppers and tomatoes) were included.

Several new crops were identified in the 2006 CEAG, which are not listed in DIR98-02. These include: blackberries, borage, chickpeas, corn (pop), garlic, linola, peanuts, sweet cherries, tart cherries, walnuts and wild rice.

As these crops have significant production areas and/or are important contributors to the diet, these will be added to the revised crop field trial requirements.

4.0 Integration of Agricultural Data into Crop Field Trial Regions

When establishing the initial field trial requirements listed in DIR98-02, the Spatial Analysis and Geomatics Application (SAGA) section of the Agriculture Division of Statistics Canada used Census Consolidated Subdivision (CCS) level geography to distribute the agricultural data from the 1991 Census of Agriculture and 1995 Fruit and Vegetable Survey to appropriate field trial regions.

In contrast, the crop production data from the 2006 CEAG was extracted from unsuppressed crop acreage at the census geography dissemination area (DA) level. These dissemination areas (DAs) are the smallest geographic areas for which all census data are provided. Therefore, the use of DAs instead of CCS level geography results in a more accurate distribution of the agricultural data to appropriate field trial regions. In cases where the DAs fell outside the field trial regions, those within a 15-km range were assigned to the nearest field trial region.

As the field trial regions do not extend beyond the main agricultural areas, some farms within specific DAs located in the northern parts of the provinces fell outside the field trial regions. Given that the hectareage of these farms was low, the impact of these farms on the total production areas for each crop is considered minimal.

5.0 Determination of the Number of Field Trials by Crop

The number of crop field trials required for a given crop is determined based on production area and dietary share. The first step involves assigning a base number of field trials based on total production area, as indicated in Section 9 of DIR98-02 (see Table 1).

Table 1 Base Number of Field Trials as per DIR98-02

Area in Hectares	Area in Acres	Base Number of Field Trials
> 4,046,860	> 10,000,000	16
> 404,690 ≤ 4,046,860	> 1,000,000 ≤ 10,000,000	12
> 121,410 ≤ 404,690	> 300,000 ≤ 1,000,000	8
> 12,140 ≤ 121,410	>30,000 ≤ 300,000	5
> 810 ≤ 12,140	> 2000 ≤ 30,000	3
> 81 ≤ 810	> 200 ≤ 2000	2
≤ 81	≤ 200	1

The next steps involve increasing or decreasing the base number of trials, based on the dietary share of the crop.

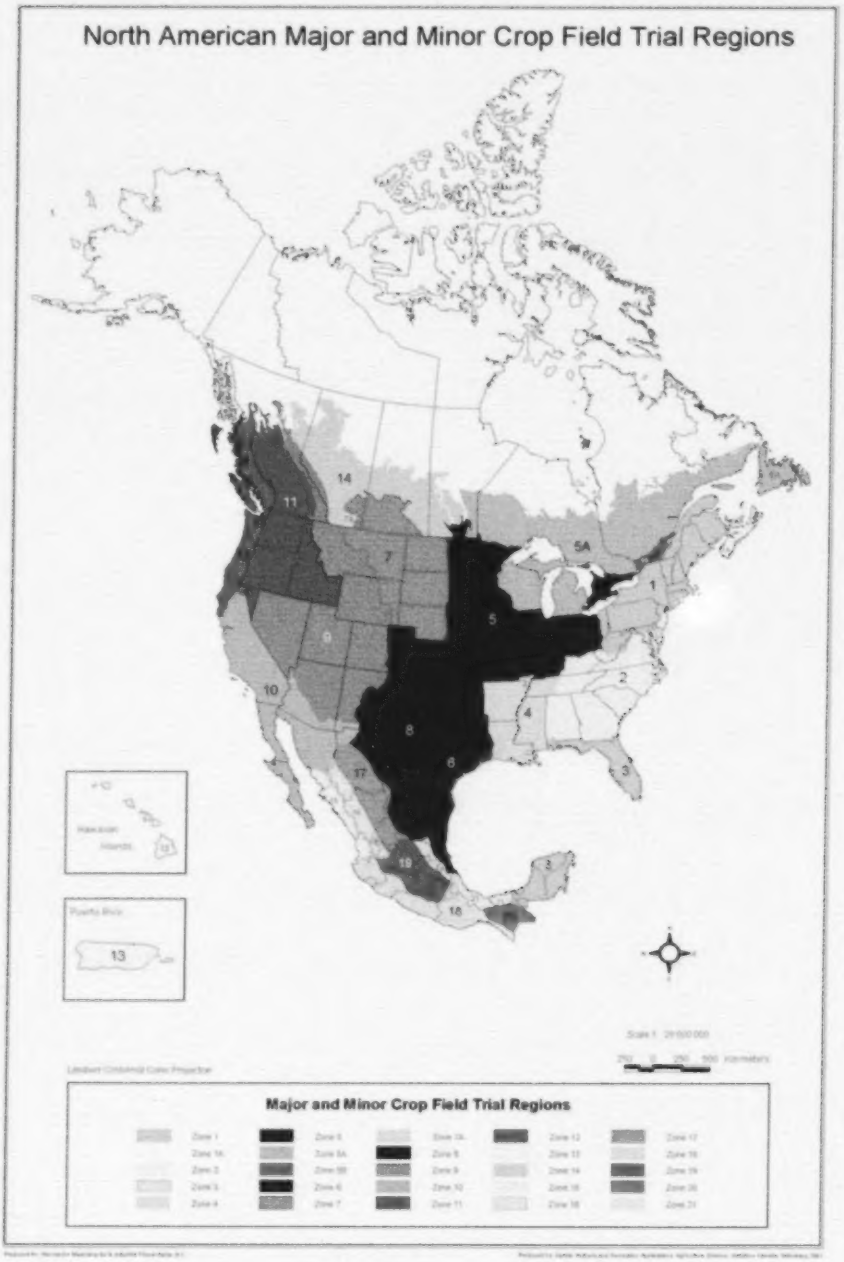
Revised trial requirements for the commodities listed in DIR98-02 were determined based on the updated production figures from the 2006 CEAG, as well as updated dietary share information, where available. The residue trial requirements for >57% of the crops specified in DIR98-02 remain unchanged. Decreases in field trial requirements were noted in 19% of the crops, while increased field trial requirements were noted for <24% of the crops. The trial requirements for the new commodities identified in the 2006 Census of Agriculture were determined using the same criteria.

The number of field trials (Table 1.1, Appendix II) was distributed among the regions according to the share of crop area reported in each region in the 2006 CEAG. The number of field trials by crop and region is presented in Table 1.2 (Appendix II). The areas of crop by region on a hectareage basis and acreage basis are presented in Table 1.3 (hectares, Appendix II) and in Table 1.4 (acres, Appendix II), respectively.

6.0 Implementation Strategies

A phase-in period will be permitted to provide petitioners with the time necessary to conduct residue trials as per the revised requirements. Supervised crop residue trials initiated after January 1, 2012 should be in conformance with the new requirements specified herein. The PMRA will consider, on a case-by-case basis, a reduction in the number of trials or acceptance of trials conducted in different NAFTA zones to fulfill Canadian registration requirements, provided a sound, scientific rationale is submitted to the Agency.

Appendix I



The PMRA currently considers the following Zones equivalent: 5 = 5A = 5B and 1 = 1A. Provided that the total number of required trials within these zones is conducted, the applicant is free to choose the distribution of trials within these regions. The zone equivalency does not apply to Zones 7 and 7A.

Appendix II

Table 1.1 Minimum Number of Crop Field Trials and Treated Samples on Individual Crops, Crop Areas and Dietary Share

Crop	Area planted in 2006 (acres)[1]	Area planted in 2006 (hectares)[1]	Share of the diet (%)[2]	Minimum number of field trials	Minimum number of treated samples
Apples	54,612	22,101	2.45117	12	24
Apricots	495	200	0.04148	3	6
Asparagus	5,199	2,104	0.01984	3	6
Barley	9,117,943	3,689,904	0.22185	12	24
Beans, dry	456,754	184,842	0.19479	8	16
Beans, green or wax	27,016	10,933	0.26333	5	10
Beets, garden	3,042	1,231	0.01443	3	6
Beets, sugar	48,156	19,488	0.52667	8	16
Blackberries	213	86	0.00721	2	8
Blueberries	126,775	51,304	0.02705	8	16
Borage	26,242	10,620	0.01999	3	6
Broccoli	11,093	4,489	0.1984	5	10
Brussels sprouts	1,386	561	0.00541	2	8
Buckwheat	32,567	13,179	0.0018	5	10
Cabbage, Chinese	2,864	1,159	0.01263	3	6
Cabbage, green and red	10,702	4,331	0.12445	5	10
Canary seed	338,595	137,025	0.01999	5	10
Canola	12,423,445	5,027,594	0.01263	12	24
Caraway seed	19,988	8,089	0.01999	3	6
Carrots	24,355	9,856	0.33368	5	10
Cauliflower	5,298	2,144	0.03427	5	10
Celery	2,243	908	0.10822	5	10
Cherries, sweet	4,250	1,720	0.0469	5	10
Cherries, tart	3,027	1,225	0.0469	5	10
Chickpeas	320,276	129,611	0.03066	5	10
Corn, grain	2,752,098	1,113,736	2.88224	16	32
Corn, pop	x	x	0.0487	3	6
Corn, silage	687,069	278,047	0.0999	5	10
Corn, sweet	74,698	30,229	0.33187	8	16
Cranberries	8,436	3,414	0.06493	5	10
Cucumbers, field	7,172	2,902	0.17135	5	10
Filberts/hazelnuts	921	373	0.01999	2	8

Crop	Area planted in 2006 (acres)[1]	Area planted in 2006 (hectares)[1]	Share of the diet (%)[2]	Minimum number of field trials	Minimum number of treated samples
Flaxseed	1,996,549	807,975	0.01999	8	16
Garlic	759	307	0.01082	2	8
Ginseng	8,229	3,330	0.01999	3	6
Grapes	30,059	12,164	0.285	5	10
Leeks	611	247	0.01999	2	8
Lentils	1,289,773	521,953	0.00721	8	16
Lettuce	9,665	3,911	0.43107	5	10
Linola	17,164	6,946	0.01999	3	6
Melons	2,510	1,016	0.43288	5	10
Millet, grain	26,780	10,837	0.01999	3	6
Mustard seed	337,040	136,395	0.01999	5	10
Nectarines	676	273	0.03427	3	6
Oats	5,099,160	2,063,559	0.19479	12	24
Onions, dry	14,389	5,823	0.40041	5	10
Parsnips	547	221	0.01999	2	8
Peaches	9,395	3,802	0.20381	5	10
Peanuts	x	x	0.22185	3	6
Pears	3,671	1,486	0.17676	5	10
Peas, dry	3,123,953	1,264,220	0.01999	8	16
Peas, green	41,590	16,831	0.18398	8	16
Peppers	6,075	2,458	0.11904	5	10
Plums and prunes	1,855	751	0.07756	3	6
Potatoes	401,556	162,504	1.67379	16	32
Radishes	1,686	682	0.00541	2	8
Raspberries	8,982	3,635	0.00721	3	6
Rhubarb	518	210	0.0018	2	8
Rutabagas and turnips	4,712	1,907	0.01623	3	6
Rye	531,729	215,183	0.01082	5	10
Safflower	x	x	0.01999	3	6
Saskatoons	3,223	1,304	0.01999	3	6
Shallots, green and seed onions	2,491	1,008	0.01999	3	6
Soybeans	2,970,361	1,202,064	0.80263	16	32
Spinach	1,758	711	0.06313	3	6
Squash, pumpkins and zucchini	16,476	6,668	0.10642	5	10
Strawberries	12,860	5,204	0.12084	5	10

Crop	Area planted in 2006 (acres)[1]	Area planted in 2006 (hectares)[1]	Share of the diet (%)[2]	Minimum number of field trials	Minimum number of treated samples
Sunflowers	211,034	85,403	0.00902	5	10
Tame hay	20,349,632	8,235,211	0.0999	12	24
Tobacco	31,920	12,918	0.01999	5	10
Tomatoes, field	22,264	9,010	3.83637	12	24
Triticale	152,923	61,886	0.01999	5	10
Walnuts	293	118	0.00721	2	8
Wheat	24,276,549	9,824,380	2.94897	20	40
Wild rice	30,965	12,531	0.01999	5	10
Cucumbers, greenhouse	672	272	-	4	2
Lettuce, greenhouse	39	16	-	4	2
Mushrooms	156	63	-	2	8
Peppers, greenhouse	659	267	-	4	2
Tomatoes, greenhouse	1,109	449	-	4	2

[1] Unsuppressed data from the 2006 Census of Agriculture, Statistics Canada, and *Greenhouse Industry* (Catalogue no. 22-202-XIB), Statistics Canada for Greenhouse Vegetables.

[2] NAFTA Guidance Document on Data Requirements for Tolerances on Imported Commodities in the United States and Canada. The dietary share was not specified for greenhouse vegetables and mushrooms.

NOTE: Unsuppressed data was used by RSGA to calculate the number of crop field trials required by region. Due to confidentiality requirements of the Statistics Act, crop area data which do not satisfy confidentiality regulations of the Statistics Act are identified as "x".

Table 1.2 Number of Field Trials by Crop and Region

Crop	Region										
	1	1A	5	5A	5B	7	7A	9	11	12	14
Apples	1	2	4		3				2		
Apricots			1						2		
Asparagus			2		1						
Barley			1			2	1				8
Beans, dry			3			3	1				1
Beans, green or wax			2		2					1	
Beets, garden			1		2						
Beets, sugar			2				6				
Blackberries			1							1	
Blueberries	1	3		3						1	
Borage											3
Broccoli			2		2					1	
Brussels sprouts			1							1	

Crop	Region										
	1	1A	5	5A	5B	7	7A	9	11	12	14
Buckwheat			2		1						2
Cabbage, Chinese			2		1						
Cabbage, green and red			2	1	2						
Canary seed						4					1
Canola			1			2					9
Caraway seed						1					2
Carrots		1	2		2						
Cauliflower		1	2		2						
Celery			2		3						
Cherries, sweet			1					1	3		
Cherries, tart			4								1
Chickpeas						4	1				
Corn, grain			9		7						
Corn, pop			3								
Corn, silage	1		2		1						1
Corn, sweet			4		3		1				
Cranberries	1				2					2	
Cucumbers, field			3		2						
Filberts/hazelnuts										2	
Flaxseed						4					4
Garlic			1		1						
Ginseng			3								
Grapes			3						2		
Leeks			1		1						
Lentils						7					1
Lettuce			1		4						
Linola						2					1
Melons			3		2						
Millet, grain			1			1					1
Mustard seed						4					1
Nectarines			2						1		
Oats			1	1		2					8
Onions, dry			3		2						
Parsnips			1		1						
Peaches			4						1		
Peanuts			3								
Pears			4						1		

Crop	Region										
	1	1A	5	5A	5B	7	7A	9	11	12	14
Peas, dry						4					4
Peas, green			4		3		1				
Peppers			3		2						
Plums and prunes			2						1		
Potatoes	3	4	3	1	1		2				2
Radishes			1		1						
Raspberries					1					2	
Rhubarb		1								1	
Rutabagas and turnips		1	1		1						
Rye			1			2					2
Safflower						1	1				1
Saskatoons						1					2
Shallots, green and seed onions			1		2						
Soybeans			13		3						
Spinach			2		1						
Squash, pumpkins and zucchini			3		1					1	
Strawberries	1		2		2						
Sunflowers			3								2
Tame hay	1		1	1	1	2					6
Tobacco			5								
Tomatoes, field			11		1						
Triticale						2	1				2
Walnuts			1							1	
Wheat			2			7	1				10
Wild rice				1							4
Cucumbers, greenhouse*			2							2	
Lettuce, greenhouse*			2							2	
Mushrooms*			1							1	
Peppers, greenhouse*			2							2	
Tomatoes, greenhouse*			2							2	

* As these crops are not grown outdoors, the zones in which the trials will be conducted are not relevant.

Table 1.3 Area of Crops by Region (Hectares) – 2006 Census of Agriculture

Crop	Region										
	1	1A	5	5A	5B	7	7A	9	11	12	14
Apples	1,038	2,522	7,845	151	6,002	17	0.3	71	4,165	233	56
Apricots	x	x	59	x	1	-	-	2	134	3	x
Asparagus	32	11	1,571	14	312	X	x	x	33	13	30
Barley	52,280	35,063	142,901	37,882	53,335	630,485	139,204	911	9,070	911	2,587,862
Beans, dry	269	106	133,519	173	8,268	114,138	32,371	-	4	1	25,604
Beans, green or wax	105	84	4,803	141	4,703	43	38	1	15	968	33
Beets, garden	51	40	440	57	513	9	2	1	15	75	27
Beets, sugar	-	-	3,751	x	-	602	14,560	-	-	-	x
Blackberries	4	4	10	1	9	X	-	x	9	44	3
Blueberries	9,413	19,684	243	16,614	565	X	-	x	38	4,736	10
Borage	x	x	206	-	x	81	-	-	-	-	10,318
Broccoli	39	381	1,623	59	1,904	3	2	0.3	10	451	19
Brussels sprouts	3	57	141	3	80	0.4	x	x	2	274	1
Buckwheat	751	199	3,827	607	1,994	580	-	-	8	74	5,140
Cabbage, Chinese	2	2	754	5	269	X	x	-	2	112	10
Cabbage, green and red	98	187	1,667	202	1,758	36	87	0.3	35	190	71
Canary seed	x	-	2,603	x	17	98,830	-	-	-	-	35,559
Canola	2,154	74	249,264	6,339	1,536	712,016	54,493	811	633	1,268	3,999,007
Caraway seed	-	-	772	-	x	2,048	x	-	-	-	5,221
Carrots	145	1,320	4,334	194	3,144	69	233	2	39	247	128
Cauliflower	20	236	952	46	728	4	26	0.2	8	76	47
Celery	2	1	309	2	566	1	x	x	2	9	1
Cherries, sweet	2	12	384	3	3	X	x	197	1,066	34	16
Cherries, tart	1	5	1,029	2	6	27	6	8	62	5	76
Chickpeas	x	-	159	x	171	109,294	13,215	-	-	-	6,742
Corn, grain	26,951	3,944	608,450	10,715	451,986	1,281	530	x	x	297	9,517
Corn, pop	-	-	x	-	-	-	-	-	-	x	-
Corn, silage	18,723	5,905	117,667	14,368	55,463	7,012	9,975	316	2,811	9,672	36,136
Corn, sweet	618	274	15,461	450	10,101	43	1,745	5	184	1,194	154
Cranberries	287	117	25	121	1,221	-	-	-	37	1,600	5
Cucumbers, field	40	44	1,691	38	885	21	5	2	28	93	57
Filberts/hazelnuts	-	2	19	x	x	-	-	x	15	322	2
Flaxseed	455	106	47,117	1,347	535	353,516	3,458	-	x	x	401,421
Garlic	10	5	156	16	41	2	0.1	4	40	26	9
Ginseng	x	2	2,889	5	6	X	-	-	393	x	x
Grapes	150	200	8,322	38	293	X	-	9	2,891	255	x

Crop	Region										
	1	1A	5	5A	5B	7	7A	9	11	12	14
Leeks	2	x	71	4	165	-	x	x	1	2	0.1
Lentils	-	-	632	x	x	476,895	1,875	-	x	x	42,341
Lettuce	25	108	439	39	3,019	3	1	1	14	245	17
Linola	-	x	x	x	-	3,807	-	-	-	-	3,032
Melons	4	x	669	6	270	1	x	x	x	4	2
Millet, grain	135	-	3,921	108	569	2,036	x	-	x	-	4,003
Mustard seed	114	-	302	x	x	94,531	4,840	-	-	-	36,557
Nectarines	-	-	207	-	-	-	-	x	65	x	-
Oats	45,455	7,532	200,670	59,562	52,616	291,137	12,775	637	7,025	972	1,385,179
Onions, dry	15	248	3,086	24	1,934	6	382	2	52	53	23
Parsnips	3	21	115	4	47	X	x	x	2	15	1
Peaches	-	20	3,195	x	x	-	-	8	569	11	x
Peanuts	-	-	x	-	-	-	-	-	x	-	-
Pears	11	99	1,027	2	36	-	-	7	255	45	5
Peas, dry	367	38	4,307	738	913	648,119	45,569	8	156	151	563,854
Peas, green	85	29	8,704	35	5,540	16	1,298	1	56	682	386
Peppers	14	13	1,625	6	663	3	1	1	62	68	4
Plums and prunes	11	31	498	12	14	1	-	3	146	30	6
Potatoes	26,260	40,588	31,126	5,179	13,297	3,873	16,705	278	220	2,922	20,057
Radishes	4	3	166	7	386	7	34	0.2	5	58	13
Raspberries	216	78	394	190	580	16	3	3	48	1,978	130
Rhubarb	2	62	42	4	21	2	x	x	4	62	10
Rutabagas and turnips	155	303	748	186	383	2	21	0.2	5	59	45
Rye	1,423	2,554	33,684	606	2,457	68,128	2,662	52	804	534	102,280
Safflower	-	-	x	-	-	X	x	-	-	-	x
Saskatoons	3	3	123	5	4	172	36	4	10	10	935
Shallots, green and seed onions	7	8	401	19	494	3	21	0.4	7	39	11
Soybeans	12,027	5,548	919,282	8,154	240,996	X	x	-	-	-	14,731
Spinach	6	17	400	4	207	2	0.3	0.2	9	57	9
Squash, pumpkins and zucchini	282	255	3,563	148	1,619	60	125	5	86	487	38
Strawberries	511	443	1,484	380	1,711	33	4	10	54	371	204
Sunflowers	45	11	42,594	206	263	4,663	256	-	2	13	37,351
Tame hay	421,069	140,580	887,509	436,285	484,688	1,111,126	104,964	20,873	185,566	43,624	4,398,927
Tobacco	-	x	12,812	-	x	-	-	-	-	-	-
Tomatoes, field	54	22	8,134	53	589	8	2	3	85	36	24
Triticale	114	28	1,109	177	394	27,025	6,171	-	401	11	26,457
Walnuts	x	1	65	x	3	-	-	0.3	22	23	-

Crop	Region										
	1	1A	5	5A	5B	7	7A	9	11	12	14
Wheat	10,732	x	864,330	x	60,945	3,358,954	440,298	622	x	x	5,048,821
Wild rice	-	x	x	2,724	-	X	-	-	-	-	9,254
Cucumbers, greenhouse	-	-	-	-	-	-	-	-	-	-	-
Lettuce, greenhouse	-	-	-	-	-	-	-	-	-	-	-
Mushrooms	0.4	1	30	1	4	X	-	-	x	22	5
Peppers, greenhouse	-	-	-	-	-	-	-	-	-	-	-
Tomatoes, greenhouse	-	-	-	-	-	-	-	-	-	-	-
Greenhouse vegetables	26	8	641	13	71	26	8	0.3	7	245	12

NOTE: Unsuppressed data was used by RSGA to calculate the number of crop field trials required by region. Due to confidentiality requirements of the Statistics Act, crop area data which do not satisfy confidentiality regulations of the Statistics Act are identified as "x".

Table 1.4 Area of Crops by Region (Acres) – 2006 Census of Agriculture

Crop	Region										
	1	1A	5	5A	5B	7	7A	9	11	12	14
Apples	2,564	6,231	19,385	373	14,832	42	1	176	10,292	576	139
Apricots	x	x	146	x	2	-	-	4	330	7	x
Asparagus	79	28	3,883	36	770	X	x	x	82	32	75
Barley	129,186	86,642	353,116	93,609	131,794	1,557,961	343,981	2,251	22,412	2,251	6,394,740
Beans, dry	665	261	329,933	428	20,430	282,040	79,991	-	10	3	63,269
Beans, green or wax	259	207	11,868	349	11,621	106	93	3	37	2,392	80
Beets, garden	127	99	1,087	141	1,268	22	6	3	37	186	66
Beets, sugar	-	-	9,268	x	-	1,487	35,979	-	-	-	x
Blackberries	11	10	26	1	23	X	-	x	23	109	8
Blueberries	23,260	48,640	601	41,055	1,396	X	-	x	93	11,703	25
Borage	x	x	509	-	x	200	-	-	-	-	25,497
Broccoli	95	940	4,010	145	4,705	8	4	1	24	1,116	47
Brussels sprouts	7	141	349	7	198	1	x	x	4	676	3
Buckwheat	1,855	492	9,456	1,501	4,928	1,432	-	-	20	183	12,700
Cabbage, Chinese	5	5	1,864	11	664	X	x	-	5	277	25
Cabbage, green and red	241	462	4,119	499	4,345	88	214	1	87	470	176
Canary seed	x	-	6,432	x	42	244,215	-	-	-	-	87,869
Canola	5,323	183	615,943	15,665	3,796	1,759,429	134,656	2,003	1,563	3,132	9,881,752
Caraway seed	-	-	1,907	-	x	5,060	x	-	-	-	12,901
Carrots	359	3,262	10,710	480	7,768	172	576	6	97	610	317
Cauliflower	50	584	2,353	113	1,800	9	63	1	20	189	116

Crop	Region										
	1	1A	5	5A	5B	7	7A	9	11	12	14
Celery	5	2	764	4	1,398	2	x	x	4	21	3
Cherries, sweet	4	29	948	7	8	X	x	488	2,633	83	39
Cherries, tart	2	11	2,542	4	14	67	14	21	153	12	188
Chickpeas	x	-	394	x	423	270,070	32,654	-	-	-	16,660
Corn, grain	66,598	9,746	1,503,511	26,476	1,116,880	3,166	1,309	x	x	734	23,517
Corn, pop	-	-	x	-	-	-	-	-	-	x	-
Corn, silage	46,265	14,592	290,761	35,505	137,052	17,326	24,648	780	6,946	23,900	89,294
Corn, sweet	1,527	676	38,204	1,113	24,959	107	4,313	12	455	2,950	382
Cranberries	710	289	62	298	3,018	-	-	-	91	3,954	13
Cucumbers, field	98	110	4,178	93	2,188	51	12	4	68	230	140
Filberts/hazelnuts	-	4	47	x	x	-	-	x	38	797	5
Flaxseed	1,123	263	116,428	3,329	1,323	873,557	8,546	-	x	x	991,932
Garlic	24	11	384	39	102	4	0.3	9	98	64	23
Ginseng	x	4	7,139	12	14	X	-	-	971	x	x
Grapes	371	494	20,563	94	724	X	-	23	7,144	630	x
Leeks	5	x	176	10	408	-	x	x	2	6	0.3
Lentils	-	-	1,561	x	x	1,178,432	4,633	-	x	x	104,626
Lettuce	62	266	1,086	97	7,460	8	3	2	34	606	42
Linola	-	x	x	x	-	9,407	-	-	-	-	7,493
Melons	10	x	1,654	15	668	2	x	x	x	9	4
Millet, grain	333	-	9,688	266	1,406	5,031	x	-	x	-	9,891
Mustard seed	282	-	746	x	x	233,591	11,961	-	-	-	90,335
Nectarines	-	-	511	-	-	-	-	x	160	x	-
Oats	112,322	18,611	495,865	147,181	130,017	719,414	31,567	1,573	17,359	2,402	3,422,849
Onions, dry	36	612	7,626	58	4,779	14	943	4	129	131	56
Parsnips	7	52	285	9	117	X	x	x	4	36	2
Peaches	-	48	7,894	x	x	-	-	19	1,406	27	x
Peanuts	-	-	x	-	-	-	-	-	x	-	-
Pears	28	243	2,537	4	90	-	-	17	629	111	12
Peas, dry	907	95	10,642	1,824	2,257	1,601,535	112,604	19	385	373	1,393,312
Peas, green	209	71	21,508	87	13,689	39	3,207	3	138	1,685	955
Peppers	34	32	4,016	14	1,638	6	3	3	152	168	9
Plums and prunes	27	77	1,231	29	34	2	-	8	362	74	14
Potatoes	64,889	100,294	76,913	12,797	32,858	9,570	41,279	688	543	7,221	54,504
Radishes	10	7	410	17	954	17	84	0.4	12	143	32
Raspberries	533	193	973	470	1,433	39	9	8	117	4,887	321
Rhubarb	5	153	104	10	51	4	x	x	11	154	24
Rutabagas and turnips	383	748	1,849	460	947	5	51	1	12	146	112
Rye	3,515	6,310	83,236	1,497	6,072	168,347	6,578	129	1,987	1,319	252,739
Safflower	-	-	x	-	-	X	x	-	-	-	x

Crop	Region										
	1	1A	5	5A	5B	7	7A	9	11	12	14
Saskatoons	8	8	303	12	11	424	88	10	26	24	2,310
Shallots, green and seed onions	17	19	991	46	1,220	7	52	1	16	97	26
Soybeans	29,719	13,710	2,271,592	20,148	595,514	X	x	-	-	-	36,401
Spinach	15	41	989	10	512	5	1	0.4	22	141	22
Squash, pumpkins and zucchini	696	629	8,804	366	4,001	148	308	12	214	1,203	94
Strawberries	1,264	1,094	3,667	939	4,228	80	10	24	133	917	504
Sunflowers	111	26	105,251	509	650	11,522	633	-	5	32	92,295
Tame hay	1,040,483	347,381	2,193,080	1,078,083	1,197,688	2,745,650	259,372	51,579	458,544	107,797	10,869,975
Tobacco	-	x	31,660	-	x	-	-	-	-	-	-
Tomatoes, field	133	54	20,099	130	1,455	20	5	8	210	90	60
Triticale	281	68	2,740	437	973	66,780	15,249	-	992	27	65,376
Walnuts	x	4	160	x	7	-	-	1	54	58	-
Wheat	26,520	x	2,135,805	x	150,599	8,300,148	1,088,000	1,536	x	x	12,475,898
Wild rice	-	x	x	6,731	-	X	-	-	-	-	22,868
Cucumbers, greenhouse	-	-	-	-	-	-	-	-	-	-	-
Lettuce, greenhouse	-	-	-	-	-	-	-	-	-	-	-
Mushrooms	1	2	74	1	11	X	-	-	x	55	11
Peppers, greenhouse	-	-	-	-	-	-	-	-	-	-	-
Tomatoes, greenhouse	-	-	-	-	-	-	-	-	-	-	-
Greenhouse vegetables	63	19	1,583	33	176	65	20	1	17	606	30

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